

TROPICAL RAINFALL MEASURING MISSION

August 9, 1999 - August 15, 1999

DOY 221 - 227

Day of Mission 620 - 626

TRMM MISSION OPERATIONS

- TRMM is flying in the -X Forward direction as of 99-226, at 19:04:56z.
- The next Yaw maneuver is scheduled for September 2nd (99-245).
- Delta-V maneuver #116 is scheduled for August 18th (99-230) using the ISP thrusters.
- The Beta angle range for DOY 228 to 234 is -4.0° to -23.1° .

TRMM SUBSYSTEM OPERATIONS

Attitude Control System

Delta-V maneuver #115 was successfully conducted on 99-224 at 14:38:13z and 15:24:03z, for durations of 43.875 and 20.0 seconds respectively, using the LBS thrusters. The off-modulation of the -Yaw thruster (#1) for burn 1 was 8.3% (91.7% on time). The off-modulation of the +Pitch thruster (#2) was 23.1% and 17.5% respectively (76.9% and 82.5% on time). The remaining fuel is 703.516 kg and the final apogee and perigee height is 354.82 km x 347.52 km.

A 180° Yaw Maneuver from +X forward to -X forward was conducted on 99-226, at 19:04:56z.

The ESA experienced Moon interference in quadrants 1 and 3 on 99-221 and 99-227. The ACS performed nominally during the transitions between 3 and 4 head control.

Flight Data System (FDS)/Command & Data Handling (C&DH)

The frequency standard continues to drift in the negative direction. The frequency remains $x'765'$, with a current drift rate of $-3.99 \mu\text{s/hr}$. The UTCF was adjusted by $-877 \mu\text{s}$ at 99-222/23:20:16z. The new UTCF value is 31535996.860672 sec with a current drift value of $-465 \mu\text{s}$.

Q-Channel restarts occurred at 99-222/01:35:55z, 222/04:47:59z, 224/17:33:39z, 224/23:37:28z, 226/14:38:25z, and 227/09:11:54z.

A 1773 bus retry error was received from PR at 99-224/09:01:28z.

The flywheel dwell value incremented one count at 99-227/21:49:42z.

Reaction Control Subsystem (RCS)

The RCS subsystem performed nominally during this period. See the ACS section for specific Delta-V information.

Power Subsystem

The Power subsystem is operating nominally.

Electrical Subsystem

The Electrical subsystem operated nominally during this period.

Thermal Subsystem

The Thermal subsystem operated nominally during this period.

Deployables Subsystem

The Deployables subsystem performed nominally during this period.

RF/Communications Subsystem

The RF/Communications subsystem performed nominally during this period.

SPACECRAFT INSTRUMENTS

CERES

CERES personnel are developing a plan for operating the instrument with the +15 V DAA anomaly. The CCR which involves creating and testing TSMs to monitor the CERES current is expected to be closed out by September.

A series of instrument power-on events and calibrations is expected near the end of August.

LIS

LIS performed nominally during this time period.

PR

PR performed nominally during this time period. The list of Internal Calibration times in which PR was not radiating is listed below:

1999:221:02:34:16 - 02:36:27z
1999:221:18:53:05 - 18:57:01z
1999:222:02:56:46 - 02:58:54z
1999:223:01:45:12 - 01:47:23z
1999:223:18:02:57 - 18:08:02z
1999:224:02:08:16 - 02:09:43z
1999:225:00:56:09 - 00:58:17z

1999:225:17:14:31 - 17:17:48z
1999:225:23:44:54 - 23:47:08z
1999:227:00:07:39 - 00:09:46z
1999:227:22:56:11 - 22:58:24z

TMI

TMI performed nominally during this time period.

VIRS

VIRS performed nominally during this time period.

Two VIRS Solar calibrations were performed on 99-225 at 03:45:34z and 05:16:58z.

GROUND SYSTEM

Y2K testing has been completed on string 3. String 3 operational readiness testing will be performed after completion of rollover testing. String 2 remains the prime Mission Planning string for normal spacecraft operations.

Installation of the new FORMATS R8B5V1, which contains fixes for FTP/gatekeeper compatibility and 5 digit orbit numbers (planning aid mod) among others, was installed on the backup string on 99-222, and testing has begun.

The event log stopped updating during the 99-221/20:28z event, ultimately causing a state manager crash and a failover to the backup string for the rest of the event and the next (ER #115). A reboot cleared the problem.

UPDs were lost for the 99-223/13:52z event due to a failure at the NCC.

The Q-channel Data Capture (DC) card of the backup front end failed during the 99-224/14:45z event (ER #116). A reboot cleared the problem.

Event Reports

#115 Event Log Failure/State Manager Crash: see Ground System section.

#116 FEP Data Capture Card Disconnect: see Ground System section.

Generic Late Acquisition Reports (for TTRs 19639)

No Generic Late Acquisitions occurred during this period.

New Anomaly

No new Anomaly Reports were opened during this week.

Recurring Open Anomalies

There were no recurring open anomalies during this week.

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